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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/670,673

09/25/2003

Bruce K. Wachtmann

2550/185

6398

2101 7590 04/17/2008
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EXAMINER

PIZARRO CRESPO, MARCOS D

ART UNIT

PAPER NUMBER

2814

MAIL DATE

DELIVERY MODE

04/17/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte BRUCE K. WACHTMANN

Appeal 2008-1033
Application 10/670,673
Technology Center 2800

Decided: April 17, 2008

Before EDWARD C. KIMLIN, CHARLES F. WARREN, and
MICHAEL P. COLAIANNI, *Administrative Patent Judges*.

KIMLIN, *Administrative Patent Judge*.

ORDER REMANDED TO THE EXAMINER

This is an appeal from the final rejection of claims 1, 3-5, 7, 8, and 15-19. Claims 9-14, and 20 stand withdrawn from consideration. Claim 1 is illustrative:

1. A method of forming a surface micromachined MEMS device, the method comprising:

providing a substrate;

applying an oxide on the substrate;

depositing a conductive path directly on the oxide, the conductive path being capable of transmitting an electronic signal between two points on the MEMS device, the oxide spacing the conductive path from the substrate, the MEMS device being free of semiconductor junctions formed by the substrate and the conductive path,

forming circuitry and structure, the circuitry and structure being the two points; and

connecting the conductive path between the circuitry and the structure.

Appellant's claimed invention is directed to a method of forming a surface micromachined MEMS device. The process includes depositing a conductive path directly on an oxide layer. A dispositive issue on appeal is the obviousness of replacing the nitride layer of Montague with Appellant's oxide layer based on the teachings of Kim and Lee. According to the Examiner, Kim and Lee establish the equivalency of an oxide and a nitride as an etch/polish stop layer.

In response to the Examiner's Answer, Appellant presents a Reply Brief setting forth an argument that was not made in the Principal Brief. Appellant contends that "substitution of Kim's or Lee's oxide layer for Montague's nitride layer will cause Montague's device not to function properly as a MEMS device" (Reply Br. 3, first para.). Appellant contends that "[i]f Montague's silicon nitride insulating layer (22 in figs. 11 and 12) device is replaced by an oxide layer as taught by Kim or Lee, the etchant

material used to dissolve sacrificial layer 30, 32 will also dissolve the oxide in insulating layer 22" (Reply Br. 5, first para.). Appellant submits that "[d]issolution of insulating layer 22 yields a non-functional MEMS device because this layer 22 will debond from the substrate 14 allowing the conductive layer 24 to short with this substrate" (*id.*).

The Examiner, in a communication dated September 5, 2007, stated that the Reply Brief was entered and considered. However, the Examiner's response to Appellant's new argument in the Reply Brief is not of record.

Accordingly, the application is remanded to the Examiner to provide the opportunity to respond to the arguments set forth in Appellant's Reply Brief. The Examiner should also consider the obviousness of selecting an etchant that does not dissolve the oxide layer that would replace Montague's nitride layer, or selecting different materials for sacrificial layers 30 and 32 that may be removed by an etchant that does not dissolve the substituted oxide layer.

This Remand to the Examiner pursuant to 37 C.F.R. § 41.50(a)(1) is made for further consideration of a rejection. Accordingly, 37 C.F.R. § 41.50(a)(2) applies if a Supplemental Examiner's Answer is written in response to this Remand to the Board.

REMAND

Appeal 2008-1033
Application 10/670,673

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